

10/748 463

CJC

Certification under 37 CFR 1.8(a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to The Commissioner for Patents, Alexandria, Virginia on February 16, 2006.

Brian W. Hameder
Name


Signature

DOCKET: CU-3528

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

APPLICANT: Won Taik KWON)
PATENT NO: 6,958,281) Group Art Unit: 2891
ISSUE DATE: October 25, 2005)
TITLE: METHOD FOR FORMING ALIGNMENT PATTERN) Examiner:
OF SEMICONDUCTOR DEVICE) Chaudhari, Chandra P.

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate

FEB 24 2006

of Correction

REQUEST FOR CERTIFICATE OF CORRECTION
DUE TO PATENT OFFICE MISTAKE (37 CFR 1.322(a))

Dear Sir:

This is a request for Certificate of Correction for the above referenced patent.

There appears an error on the title page of the patent wherein the indication of the country of the priority application is incorrect, as shown in red on the attached copy, namely that "(KP)" should be "(KR)".

To provide support herein, the following materials are also enclosed herewith:

1. Copy of the Combined Declaration & Power of Attorney in which the country of the priority application is indicated on page 3 thereof.
2. Copy of official filing receipt with indication of Korean priority application.
3. Copy of Page 7 from Annex K of the PCT Applicant's Guide in which "KR" is indicated as Republic of Korea.

Also attached is Form PTO/SB/44, which is believed to be suitable for printing.

It is believed that no fee is necessary for this Certificate of Correction, as the error occurred through no fault of the applicant.

In addition, it is believed that the enclosed materials unequivocally support the undersigned's assertion of the correct abbreviation of the Republic of Korea, and a Certificate of Correction is respectfully requested to be issued as expeditiously as possible.

Respectfully submitted,

Bir. Hrd
Attorney for Applicant

Attorney for Applicant

February 16, 2006

Date

/39

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(312) 427-1300



US006958281B2

(12) **United States Patent**
Kwon

(10) **Patent No.:** US 6,958,281 B2
(45) **Date of Patent:** Oct. 25, 2005

(54) **METHOD FOR FORMING ALIGNMENT PATTERN OF SEMICONDUCTOR DEVICE**

(75) **Inventor:** Won Taik Kwon, Kyoungki-do (KR)

(73) **Assignee:** Hynix Semiconductor Inc.,
Kyoungki-do (KR)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 114 days.

(21) **Appl. No.:** 10/748,463

(22) **Filed:** Dec. 30, 2003

(65) **Prior Publication Data**

US 2005/0118785 A1 Jun. 2, 2005

(30) **Foreign Application Priority Data**

Nov. 28, 2003 (KP) KR 10-2003-0085801

(51) **Int. Cl.⁷** H01L 21/76

(52) **U.S. Cl.** 438/401; 438/427; 438/975

(58) **Field of Search** 438/401, 427,
438/524, 975

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,020,249 A * 2/2000 Shih et al. 438/401

6,037,236 A * 3/2000 Jang 438/401
6,136,662 A * 10/2000 Allman et al. 438/427

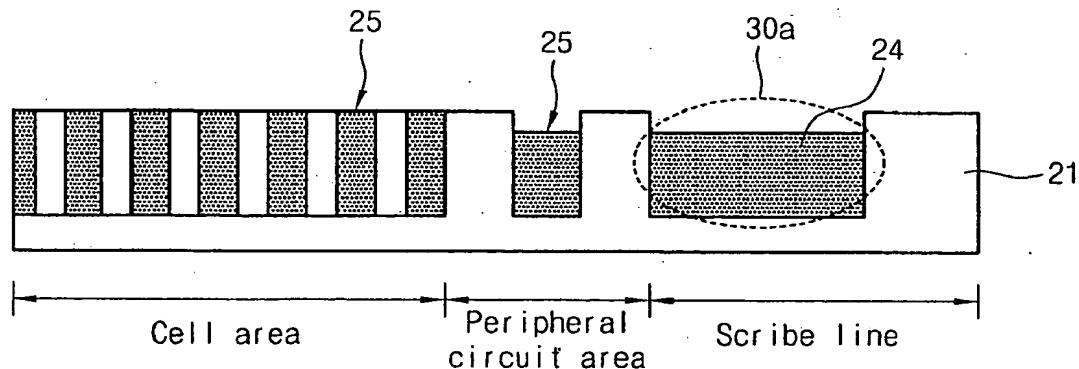
* cited by examiner

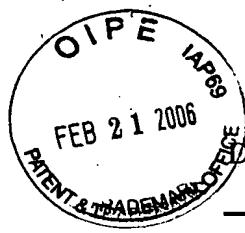
Primary Examiner—Chandra Chaudhari
(74) Attorney, Agent, or Firm—Ladas & Parry LLP

(57) **ABSTRACT**

Disclosure is a method for forming an alignment pattern of a semiconductor device. The method has the steps of forming a trench in each of a cell area, a peripheral circuit area, and a scribe line of a silicon substrate, depositing an oxide layer on an entire surface of the silicon substrate in such a manner that the trench formed in the cell area of the silicon substrate is filled with the oxide layer, forming a trench-type isolation layer in both cell area and peripheral circuit area of the silicon substrate by CMP the oxide layer, forming an ion implantation mask for exposing predetermined portions of the cell area, the peripheral circuit area formed on the silicon substrate and a trench portion of the scribe line filled with the oxide layer, implanting impurities into an exposed portion of the silicon substrate, which is not covered with the ion implantation mask, performing the wet dipping for an oxide layer to a resultant structure of the silicon substrate so as to recess the oxide layer filled in the trench of the scribe line, and removing the ion implantation mask.

4 Claims, 6 Drawing Sheets





Docket:

PATENT

COMBINED DECLARATION AND POWER OF ATTORNEY

*(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION OR CIP)*

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type: *(check one applicable item below)*

original
 design
 supplemental

Note: If the Declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

national stage of PCT

Note: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR CIP.

divisional
 continuation
 continuation-in-part (CIP)

INVENTORSHIP IDENTIFICATION

WARNING: If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

METHOD FOR FORMING ALIGNMENT PATTERN OF SEMICONDUCTOR DEVICE

SPECIFICATION IDENTIFICATION

the specification of which: (complete (a), (b) or (c))

(a) is attached hereto.

(b) was filed on _____ as Serial No. _____ or
 Express Mail No. (as Serial No. not yet known) _____
and was amended on _____ (if applicable).

Note: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the Declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental Declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

(c) was described and claimed in PCT International Application No. _____
filed on _____ and as amended under PCT Article 19 on _____
(if any).

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and

in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

PRIORITY CLAIM (35 U.S.C. § 119(a)-(d))

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

(d) no such applications have been filed.
 (e) such applications have been filed as follows.

Note: Where item (c) is entered above and the international application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day/month/year)	PRIORITY CLAIMED UNDER 35 USC 119
Republic of Korea	2003-85801	28/11/2003	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(35 U.S.C. § 119(e))

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER	FILING DATE

ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

Note: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage or (2) a continuation, divisional, or continuation-in-part, then also complete ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CIP APPLICATION for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (*list name and registration number*).

Thomas F. Peterson, 24790; Richard J. Streit, 25765; Donald P. Reynolds, 26220; W. Dennis Drehkoff, 27193; Vangelis Economou, 32341; Brian W. Hameder, 45613; Valerie Neymeyer-Tynkov, Reg. 46956; Paul B. West, 18947; Joseph H. Handelman, 26179; Peter D. Galloway 27885; John Richards, 31503; Iain C. Baillie, 24090; Richard P. Berg, 28145

Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO:

Richard J. Streit
c/o Ladas & Parry
224 South Michigan Avenue
Suite 1200
Chicago, Illinois 60604

DIRECT TELEPHONE CALLS TO:

(*Name and telephone number*)

(312) 427-1300

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

Note: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

Full name of sole or first inventor

Won Taik

(Given Name)

(Middle Initial or Name)

KWON

(Family (or Last) Name)

Inventor's signature



Date December 19, 2003

Country of Citizenship

Republic of Korea

Residence Kyoungki-do

Post Office Address 669-12, Kyopyeong 1-ri, Kangsang-myon, Yangpyoung-eub,
Yangpyoung-gun, Kyoungki-do, Korea

LADAS & PARRY
CHICAGO

UNITED STATES PATENT AND TRADEMARK OFFICE

2004 MAY -3 PM 2:29

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
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 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/748,463	12/30/2003	2812	770	CU-3528 RJS	6	4	1

CONFIRMATION NO. 7071

26530
 LADAS & PARRY
 224 SOUTH MICHIGAN AVENUE, SUITE 1200
 CHICAGO, IL 60604

FILING RECEIPT



OC000000012485126

Date Mailed: 04/29/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Won Taik Kwon, Kyoungki-do, KOREA, REPUBLIC OF;

Domestic Priority data as claimed by applicant

Foreign Applications

REPUBLIC OF KOREA 2003-35801 11/28/2003

If Required, Foreign Filing License Granted: 04/28/2004

Projected Publication Date: 06/02/2005

Non-Publication Request: No

Early Publication Request: No

Title

Method for forming alignment pattern of semiconductor device

Preliminary Class

438

FEB 28 2006



Country Names and Two-Letter Codes

SECTION 2, PAGE 2

IS	Iceland	OA	African Intellectual Property Organization (OAPI) ⁽¹⁾
IT	Italy	OM	Oman
JM	Jamaica	PA	Panama
JO	Jordan	PE	Peru
JP	Japan	PG	Papua New Guinea
KE	Kenya	PH	Philippines
KG	Kyrgyzstan	PK	Pakistan
KH	Cambodia	PL	Poland
KI	Kiribati	PT	Portugal
KM	Comoros	PW	Palau
KN	Saint Kitts and Nevis	PY	Paraguay
KP	Democratic People's Republic of Korea	QA	Qatar
KR	Republic of Korea	RO	Romania
KW	Kuwait	RU	Russian Federation
KY	Cayman Islands	RW	Rwanda
KZ	Kazakhstan	SA	Saudi Arabia
LA	Lao People's Democratic Republic	SB	Solomon Islands
LB	Lebanon	SC	Seychelles
LC	Saint Lucia	SD	Sudan
LI	Liechtenstein	SE	Sweden
LK	Sri Lanka	SG	Singapore
LR	Liberia	SH	Saint Helena
LS	Lesotho	SI	Slovenia
LT	Lithuania	SK	Slovakia
LU	Luxembourg	SL	Sierra Leone
LV	Latvia	SM	San Marino
LY	Libyan Arab Jamahiriya	SN	Senegal
MA	Morocco	SO	Somalia
MC	Monaco	SR	Suriname
MD	Republic of Moldova	ST	Sao Tome and Principe
MG	Madagascar	SV	El Salvador
MK	The former Yugoslav Republic of Macedonia	SY	Syrian Arab Republic
ML	Mali	SZ	Swaziland
MM	Myanmar	TC	Turks and Caicos Islands
MN	Mongolia	TD	Chad
MO	Macao	TG	Togo
MP	Northem Mariana Islands	TH	Thailand
MR	Mauritania	TJ	Tajikistan
MS	Montserrat	TL	Timor-Leste
MT	Malta	TM	Turkmenistan
MU	Mauritius	TN	Tunisia
MV	Maldives	TO	Tonga
MW	Malawi	TR	Turkey
MX	Mexico	TT	Trinidad and Tobago
MY	Malaysia	TV	Tuvalu
MZ	Mozambique	TW	Taiwan, Province of China
NA	Namibia	TZ	United Republic of Tanzania
NE	Niger	UA	Ukraine
NG	Nigeria	UG	Uganda
NI	Nicaragua	US	United States of America
NL	Netherlands	UY	Uruguay
NO	Norway	UZ	Uzbekistan
NP	Nepal	VA	Holy See
NR	Nauru	VC	Saint Vincent and the Grenadines
NZ	New Zealand	VE	Venezuela

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO: 6,958,281
DATED: October 25, 2005
INVENTOR(S): Won Taik KWON

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page, Section (30) delete "(KP)" and insert --(KR)--